Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

July 19, 2017

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

Dear Tom Moe:
Enclosed are the analytical results for sample(s) received by the laboratory on July 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods
melisa.woods@pacelabs.com
(218)742-1042
Project Manager

Enclosures

cc: Terri Sabetti, NTS

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CERTIFICATIONS

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
California Certification #2973
California Certification #2973
Montana Certificate #CERT0103
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality
California Certification #2973

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1290912001	**WS-002 Scrubber Make-Up**	Water	07/05/17 08:50	07/05/17 13:45
1290912002	**WS-003 Thickener Overflow**	Water	07/05/17 08:40	07/05/17 13:45
1290912003	**WS-003 Thickener Overflow**	Water	07/05/17 08:40	07/05/17 13:45

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SAMPLE ANALYTE COUNT

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1290912001	**WS-002 Scrubber Make-Up**	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V
1290912002	**WS-003 Thickener Overflow**	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V
1290912003	**WS-003 Thickener Overflow**	EPA 300.0	CSD	2	PASI-V

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ANALYTICAL RESULTS

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

Sample: WS-002 Scrubber Make-Up **Lab ID: 1290912001** Collected: 07/05/17 08:50 Received: 07/05/17 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
Calcium, Dissolved	**114**	mg/L	5.0	0.91	10	07/06/17 16:15	07/07/17 14:51	7440-70-2	
Magnesium, Dissolved	**234**	mg/L	5.0	0.68	10	07/06/17 16:15	07/07/17 14:51	7439-95-4	
Total Hardness, Dissolved	**1250**	mg/L	100	5.0	10	07/06/17 16:15	07/07/17 14:51		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**827**	mg/L	20.0	10.0	10		07/13/17 11:26	14808-79-8	

Sample: WS-003 Thickener Overflow **Lab ID: 1290912002** Collected: 07/05/17 08:40 Received: 07/05/17 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
Calcium, Dissolved	**908**	mg/L	5.0	0.91	10	07/06/17 16:15	07/07/17 14:54	7440-70-2	
Magnesium, Dissolved	**91.1**	mg/L	5.0	0.68	10	07/06/17 16:15	07/07/17 14:54	7439-95-4	
Total Hardness, Dissolved	**2640**	mg/L	100	5.0	10	07/06/17 16:15	07/07/17 14:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**2030**	mg/L	40.0	20.0	20		07/13/17 14:29	14808-79-8	

Sample: WS-003 Thickener Overflow **Lab ID: 1290912003** Collected: 07/05/17 08:40 Received: 07/05/17 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**629**	mg/L	5.0	2.5	5		07/13/17 13:49	16887-00-6	
Fluoride	**7.4**	mg/L	0.50	0.25	5		07/13/17 13:49	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

QC Batch: 118538 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved
Associated Lab Samples: 1290912001, 1290912002

METHOD BLANK: 469426 Matrix: Water
Associated Lab Samples: 1290912001, 1290912002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.091	07/07/17 13:49	
Magnesium, Dissolved	mg/L	ND	0.50	0.068	07/07/17 13:49	

LABORATORY CONTROL SAMPLE: 469427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	51.3	103	85-115	
Magnesium, Dissolved	mg/L	50	51.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 469428 469429

Parameter	Units	1290846001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	45.6	50	50	97.6	94.2	104	97	70-130	4	20	
Magnesium, Dissolved	mg/L	92.6	50	50	142	141	99	96	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 469430 469431

Parameter	Units	1290938001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	39.5	50	50	91.3	89.5	104	100	70-130	2	20	
Magnesium, Dissolved	mg/L	53.5	50	50	104	103	102	98	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

QC Batch: 119131 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1290912001, 1290912002, 1290912003

METHOD BLANK: 471735 Matrix: Water
Associated Lab Samples: 1290912001, 1290912002, 1290912003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	07/13/17 07:20	
Fluoride	mg/L	ND	0.10	0.050	07/13/17 07:20	
Sulfate	mg/L	ND	2.0	1.0	07/13/17 07:20	

LABORATORY CONTROL SAMPLE: 471736

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.0	104	90-110	
Fluoride	mg/L	5	5.1	102	90-110	
Sulfate	mg/L	50	51.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471737 471738

Parameter	Units	1291189001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	727	250	250	987	993	104	106	90-110	1	20	
Fluoride	mg/L	ND	25	25	26.2	26.0	104	103	90-110	1	20	
Sulfate	mg/L	22.4	250	250	287	286	106	105	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471739 471740

Parameter	Units	1290912001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	112	500	500	644	643	106	106	90-110	0	20	
Fluoride	mg/L	1.9	50	50	53.8	53.8	104	104	90-110	0	20	
Sulfate	mg/L	827	500	500	1350	1350	105	104	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-LINE 3 Wk1
Pace Project No.: 1290912

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1290912001	**WS-002 Scrubber Make-Up**	EPA 200.7	118538	EPA 200.7	118606
1290912002	**WS-003 Thickener Overflow**	EPA 200.7	118538	EPA 200.7	118606
1290912001	**WS-002 Scrubber Make-Up**	EPA 300.0	119131		
1290912002	**WS-003 Thickener Overflow**	EPA 300.0	119131		
1290912003	**WS-003 Thickener Overflow**	EPA 300.0	119131		

WO#: 1290912
PM: MMW Due Date: 07/19/17
CLIENT: USS CORP

CHAIN-OF-CUSTODY / Analytical Reques

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fiel

Section A Required Client Information:		Section B Required Project Information:	Section C Invoice Information:
Company: USS Corporation		Report To: Tom Moe	Attention:
Address: P.O. Box 417		Copy To:	Company Name:
Mountain Iron, MN 55768			Address:
Email: tmoe@uss.com		Purchase Order #:	Pace Quote:
Phone: (218)749-7485	Fax:	Project Name: NPDES-LINE 3 Wk1	Pace Project Manager: heather.zika@pacelabs.com,
Requested Due Date:		Project #:	Pace Profile #:

Regulatory Agency

State / Location

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): LAB FILTERED: SO4	Lab FILTERED: Ca,Mg,Hard	Cl,F	Residual Chlorine (Y/N)	
1	WS-002 Scrubber Make-Up	WT		7-5	7 08:50	7-5	7 08:50												X	X			LAB FILTERED,LAB FILTERED
2	WS-003 Thickener Overflow	WT		7-5	7 08:40	7-5	7 08:40												X	X			LAB FILTERED,LAB FILTERED
3	WS-003 Thickener Overflow	WT		7-5	7 08:40	7-5	7 08:40														X		
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Paul Mattila	7-5-17	13:45	Heather Zika	7/5/17	1345	4.7	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Paul Mattila

SIGNATURE of SAMPLER: Paul Mattila DATE Signed: 7-5-17

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VM-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: USS Corp

Project #: WO#: 1290912

PM: MMW Due Date: 07/19/17

CLIENT: USS CORP

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other: _____ Temp Blank? ☑ Yes ☐ No

Thermometer Used: ☑ 140792808 Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 4.4 Cooler Temp Corrected °C: 4.7 Biological Tissue Frozen? ☐ Yes ☐ No ☑ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: 7/5/17 HZ

Comments:

Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5. If Fecal: ☐ <8 hours ☐ >8, <24 hours ☐ >24 hours
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☑ Yes	☐ No	☐ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☐ Yes	☐ No	☑ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☑ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased): _____				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Melissa Woods Date: 7/6/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)